BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application No.: 09/841,644

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APPEAL BRIEF

Sir:

This Brief is submitted in support of an appeal from a final Office Action, mailed 11 June 2008, pursuant to a Notice of Appeal filed 20 September 2008.

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REAL PARTY IN INTEREST

The real party in interest is TVWorks, LLC, a joint venture of Comcast Corporation and Cox Communications, Inc., with a place of business at Two Belvedere Place, Mill Valley, CA 94941.

RELATED APPEALS AND INTERFERENCES

Appellants are not aware of any related appeals or interferences.

STATUS OF CLAIMS

Claims 1-6, 8, 10, 11, 13-16, 18, 20, and 39-42 are pending, have been finally rejected and are the subject of this appeal. In particular, claims 1, 2, 5, 6, 8, 11, 15, 16, 18 and 39-42 were rejected under 35 USC 102(e) as being anticipated by Kikinis (US Patent 5,929,849); claims 10 and 20 were rejected under 35 USC 103 in view of Kikinis and knowledge in the art concerning ATVEF triggers; and claims 3, 4, 13 and 14 were rejected under 35 USC 103 in view of Kikinis and Portuesi (US Patent 5,774,666). All of these rejections are addressed in this appeal.

Claims 39 and 40 were rejected under 35 USC 101 as being directed to non-statutory subject matter, however, this rejection has been overcome and so is not addressed in this appeal. In the claims appendix, claims 39 and 40 are presented with the Rule 116 amendments entered.

Claims 7, 9, 12, 17, 19, and 21-38 have been cancelled.

STATUS OF AMENDMENTS

A Rule 116 amendment, filed 20 September 2008 has been entered. As a result, the rejection of claims 39 and 40 under 35 USC 101 has been overcome (see Advisory Action dated 8 October 2008). Claims 39 and 40 remain rejected under 35 USC 102(e) as discussed above.

SUMMARY OF CLAIMED SUBJECT MATTER

Claims 1, 11 and 39 are independent claims in this application and read as follows:[1]

1. In an interactive television (TV) environment, a method comprising:

recognizing, using a pattern engine [305], one or more patterns in an unmodified broadcast data stream [702];

accessing a repository [304A] storing attributes [625] concerning interactive TV triggers [630] to be inserted into the broadcast data stream [600] and determining whether a pattern recognized by the pattern engine is to be associated with a one of the interactive TV triggers [704]; and, if so, then

prior to broadcasting, automatically inserting [504] an interactive TV trigger determined to be associated with a recognized pattern into the broadcast data stream [708].

11. In an interactive television (TV) system environment, a system comprising:

an insertion platform [110] configured to recognize [702], using a pattern engine [305], one or more patterns in an unmodified broadcast data stream; access a repository [304A] storing attributes [625] concerning interactive TV triggers [630] to be inserted into the broadcast data stream [600]; determine [704] whether a pattern recognized by the pattern engine [305] is to be associated with a one of the interactive TV triggers; and, if so, then to insert automatically [504, 708], and prior to broadcasting the data stream, those of the interactive TV triggers determined to be associated with recognized ones of the patterns into an unmodified broadcast data stream.

39. A tangible machine-readable medium encoded with computer-executable instructions, which if executed by a computer, cause the computer to perform an operation comprising:

recognizing [702], using a pattern engine [305], a media pattern [602] in an unmodified broadcast data stream [600];

accessing a repository [304A] storing attributes [625] concerning interactive TV triggers [630] to be inserted into the broadcast data stream [600] and determining [704] whether the

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[1] Reference numbers as used in the drawings have been inserted in accordance with 37 C.F.R. §41.37(c)(1)(v). The use of such reference numbers should in no way be read as limiting the claim to the illustrated embodiment.

media pattern [602] recognized by the pattern engine [305] is to be associated with an interactive element; and, if so, then

prior to broadcasting, automatically inserting [504, 708] the interactive element determined to be associated with the media pattern into the broadcast data stream.

As is apparent from these independent claims, the present invention concerns methods and systems for use in an interactive television (iTV) environment, in particular, methods and system which allow for the automated insertion of iTV triggers into a broadcast data stream, prior to the broadcast of that data stream.

As explained in the present application, iTV environments allow users to interact with a broadcast or service being provided. This may include enhanced, interactive content ("interactive content") such as a Universal Resource Locator (URL) address in which a TV user can select to access a website on the Internet or World Wide Web at the selected URL address. However, conventional iTV systems require broadcasters to manually modify each television program to add such interactive content prior to broadcasting. As such, a great deal of effort is needed to bring interactive content to iTV users and so the industry has experienced unwanted delay in deploying interactive content with broadcast programs. Specification at [0003] - [0004].

To overcome these deficiencies in the art, the present invention provides for automatic insertion of iTV triggers into a broadcast data stream, for example based on the recognition of one or more elements within the broadcast data stream. In particular, a recognized element can trigger the insertion of the interactive TV trigger into the broadcast data stream. Specification at [0005]. The iTV trigger can be based any of a variety of interactive content industry standard formats, for example those published by the Advanced Television Enhancement Forum (ATVEF) for Transport Type A or Transport Type B, or other formats. Specification at [0019]. When a television with a set-top box is used to receive and display a broadcast with an iTV trigger inserted therein, the iTV trigger can be used to retrieve information from web server (or other resource) for display on the TV. Specification at [0020].

To facilitate the automated insertion of the iTV triggers into the unmodified broadcast data stream, the present invention provides an insertion platform architecture. This insertion platform architecture automatically inserts iTV triggers into a broadcast data stream based on elements contained within that broadcast data stream. These elements are recognized using a

pattern engine within the insertion platform architecture and comparing same to attributes stored in a database accessible to the insertion platform architecture. Thus, when elements within the broadcast data stream are deemed to match one of the stored attributes, the insertion platform architecture automatically inserts iTV triggers into the broadcast data stream. Specification at [0024] - [0025], [0033], and [0039] - [0040].

By way of illustrative example, suppose an advertisement for a particular clothing store is being broadcast. Then, the insertion platform architecture may be used to automatically insert an iTV trigger in the form of a URL for the clothing store's web site into the broadcast data stream so as to be concurrently displayed on a TV with the advertisement. A user using a remote control may select the URL to visit the company's web site. Specification at [0028] - [0029].

GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

1. Whether claims 1, 2, 5, 6, 8, 11, 15, 16, 18 and 39-42 are patentable over Kikinis (US Patent 5,929,849)?

2. Whether claims 10 and 20 are patentable in view of Kikinis when considered together with knowledge in the art?

3. Whether claims 3, 4, 13 and 14 were rejected under 35 USC 103 in view of Kikinis and Portuesi (US Patent 5,774,666)?

ARGUMENT

1. THE PRESENT CLAIMS ARE PATENTABLE OVER KIKINIS, BECAUSE KIKINIS DOES NOT DESCRIBE RECOGNIZING ONE OR MORE PATTERNS IN AN UNMODIFIED BROADCAST DATA STREAM AND, PRIOR TO BROADCASTING, AUTOMATICALLY INSERTING INTERACTIVE TRIGGERS BASED ON THIS RECOGNITION IN THE MANNERS PRESENTLY CLAIMED.

Kikinis is relied upon in rejecting all of the present claims in one form or another. However, this reliance is misplaced because Kikinis does not teach or suggest recognizing one or more patterns in an unmodified broadcast data stream and, prior to broadcasting, automatically inserting interactive triggers based on that recognition, as presently claimed. Instead, Kikinis relies upon the use of outside instrumentalities (e.g., scanners) to detect

patterns (e.g., bar codes) applied to real world objects and, based on these detections, to add triggers to a television broadcast. Hence, the claims are patentable over Kikinis, whether considered alone or in combination with knowledge in the art regarding ATVEF triggers.

To better understand this proposition, consider that Kikinis describes a system in which TV viewers are provided with a link to supplementary information pertaining to displayed images received at a set-top box. This is accomplished by inserting, on a frame-by-frame basis, a URL link within each frame (or in locations between frames) of a broadcast and associating the link with a position of an element within the subject frame. Kikinis, col. 10, ll. 6-11. Inherent in Kikinis then is the concept of modifying the broadcast stream.

Consider, for example, the scenario of a prerecorded advertisement. In such cases, Kikinis states that the advertisement is edited off-line (i.e., prior to broadcast) in order to insert desired links, etc. Kikinis at col. 10, ll. 18-55. Thus, this form of URL insertion does not involve recognition of patterns in an unmodified broadcast data stream as claimed. Instead, objects are identified in a non-broadcast data stream.

In the case of live broadcasts however, where only minimal delay can be tolerated, separate data processing equipment is needed in order to associate an object in a frame with a URL. Kikinis at col. 10, ll. 62-67. Kikinis indicates that this may be done in either of two ways: Either the person or object to be associated with the URL must be equipped with special devices to signal the data processing equipment (Kikinis at col. 11, ll. 2-5), or the object or individual must be bar coded (Kikinis at col. 11, ll. 23-25).

In the former case, transmitting a signal to the data processing equipment does not involve recognizing patterns in an unmodified broadcast data stream. Instead, the technique makes use of external (from the point of view of the broadcast stream) signaling to indicate the need for URL insertion. Thus, the claims are patentable over such a scheme.

In the latter case, recognizing bar coded clothing or objects, the same is true. That is, the bar code reader or scanner would be external to the broadcast system and would be used to read bar codes directly from the objects or individuals that are the subject of the television broadcast. Rather than examining the broadcast data stream itself, the bar code scanner reads

the bar codes from the real world objects. This is a markedly different scheme than that recited in the present claims, where a pattern engine is used to recognize patterns in an unmodified broadcast data stream. Hence, all of the presently pending claims are patentable over Kikinis.

With respect to claims 10 and 20, the Office Action indicates that the use of ATVEF triggers is well known in the art. Whether or not this is true, even if Kikinis were concerned with the use of ATVEF triggers the above-described differences between the schemes employed by Kikinis and those presently claimed would remain. Therefore, the present claims would still be patentable over Kikinis in light of this knowledge in the art.

2. THE PRESENT CLAIMS ARE PATENTABLE OVER KIKINIS IN VIEW OF PORTUESI, BECAUSE NEITHER REFERENCE DESCRIBES RECOGNIZING ONE OR MORE PATTERNS IN AN UNMODIFIED BROADCAST DATA STREAM AND PRIOR TO BROADCASTING, AUTOMATICALLY INSERTING INTERACTIVE TRIGGERS BASED ON THIS RECOGNITION, AS PRESENTLY CLAIMED.

Portuesi (U.S. Patent 5,774,666) describes a system and method for displaying an active uniform network resource locator (URL) embedded in a time-based medium. Upon activation of this locator by a user the referenced resource is retrieved and displayed. Portuesi Abstract. However, Portuesi does not teach or suggest use of a pattern engine to recognize patterns in an unmodified broadcast data stream, and consulting a repository storing attributes concerning interactive TV triggers to be inserted into the broadcast data stream is accessed to determine whether a pattern recognized by the pattern engine is to be associated with a one of the interactive TV triggers, as presently claimed.

Instead, in the system described by Portuesi, URLs are embedded in a time-based medium (such as a movie) by explicitly defining in a special URL track when the URLs should appear and where they should be placed on display. This requires explicitly associating the URLs with audio, image and other elements of a time-based medium using the temporal relationship between the various tracks.[2] Portuesi col. 4, l. 49 – col. 5, l. 12; and col. 5, ll. 20-27 and 40-45.

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[2] Tables 1-8 (cols. 7-8) in Portuesi further illustrate the explicit definition of, placement and timing of the URL appearance. For enabling a hotspot, shape boundaries (e.g., 2D coordinates) will have to be explicitly defined.

Thus, in the system described by Portuesi, there is no recognition of patterns in an unmodified broadcast data stream and based on such recognition, automatic insertion of interactive TV triggers, as required by the present claims. Consequently, adding the teachings of Portuesi to those of Kikinis fails to yield the present invention.

CONCLUSION

For the foregoing reasons, reversal of the Examiner's rejections as set forth in the final Office Action with respect to claims 1-6, 8, 10, 11, 13-16, 18, 20, and 39-42 is respectfully requested. If there are any additional fees due in connection with this communication, please charge Deposit Account No. 19-3140.

Respectfully submitted,

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Portuesi col. 8, Table 5. Similarly, durations, frame motion association, etc., also have to be explicitly defined.

Portuesi col. 7-8, Table 2, 8.

CLAIMS APPENDIX

The claims on appeal read as follows:

1. In an interactive television (TV) environment, a method comprising:

recognizing, using a pattern engine, one or more patterns in an unmodified broadcast data stream;

accessing a repository storing attributes concerning interactive TV triggers to be inserted into the broadcast data stream and determining whether a pattern recognized by the pattern engine is to be associated with a one of the interactive TV triggers; and, if so, then

prior to broadcasting, automatically inserting an interactive TV trigger determined to be associated with a recognized pattern into the broadcast data stream.

2. The method of claim 1, further comprising:

pre-inserting the interactive TV trigger into any stored content that will constitute the broadcast data stream.

3. The method of claim 2, wherein the patterns include voice patterns.

4. The method of claim 2, wherein the patterns include other audio patterns.

5. The method of claim 2, wherein the patterns include video patterns.

6. The method of claim 2, wherein the patterns include text patterns as a special degenerate case of video patterns.

8. The method of claim 1, further comprising:

delivering the broadcast data stream with the inserted interactive TV trigger to one or more receivers for display.

10. The method of claim 1, wherein the interactive TV trigger includes an Advanced Television Enhancement Forum (ATVEF) trigger.

11. In an interactive television (TV) system environment, a system comprising:

an insertion platform configured to recognize, using a pattern engine, one or more patterns in an unmodified broadcast data stream; access a repository storing attributes concerning interactive TV triggers to be inserted into the broadcast data stream; determine whether a pattern recognized by the

pattern engine is to be associated with a one of the interactive TV triggers; and, if so, then to insert automatically, and prior to broadcasting the data stream, those of the interactive TV triggers determined to be associated with recognized ones of the patterns into an unmodified broadcast data stream.

13. The system of claim 11, wherein the patterns include voice patterns.

14. The system of claim 11, wherein the patterns include other audio patterns.

15. The system of claim 11, wherein the patterns include video patterns.

16. The system of claim 11, wherein the patterns include text patterns as a special degenerate case of video patterns.

18. The system of claim 11, further comprising:

a delivering unit to deliver the broadcast data stream with the inserted interactive TV trigger to one or more receivers for display.

20. The system of claim 11, wherein the interactive TV trigger includes an Advanced Television Enhancement Forum (ATVEF) trigger.

39. A tangible machine-readable medium encoded with computer-executable instructions, which if executed by a computer, cause the computer to perform an operation comprising:

recognizing, using a pattern engine, a media pattern in an unmodified broadcast data stream;

accessing a repository storing attributes concerning interactive TV triggers to be inserted into the broadcast data stream and determining whether the media pattern recognized by the pattern engine is to be associated with an interactive element; and, if so, then

prior to broadcasting, automatically inserting the interactive element determined to be associated with the media pattern into the broadcast data stream.

40. The tangible machine-readable medium of claim 39, further encoded with computer-executable instructions, which if executed by the computer, cause the computer to perform an operation comprising:

passing the broadcast data stream to one or more receivers without inserting any interactive elements if the media pattern recognized by the pattern engine is not to be associated with any interactive elements.

41. The method of claim 1, wherein the patterns comprise media patterns.

42. The system of claim 11, wherein the patterns comprise media patterns

EVIDENCE APPENDIX

None.

RELATED PROCEEDINGS APPENDIX

None.